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# **The Knowledge Bank and poverty reduction**

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## The Knowledge Bank and poverty reduction\*

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### Abstract

The World Bank's (WB) mission and overarching goal is to reduce poverty. Moving ahead, what can the WB do to enhance its contribution to the poverty reduction agenda? This question can be answered from at least two perspectives: the WB as a lending institution and the WB as a knowledge bank. Here we will concentrate on the latter and suggest two areas in which more and better information and analysis could help move the poverty reduction agenda forward: improving data on poverty and redressing poverty assessments to include the impact of fiscal policy on poverty and inequality.

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The World Bank's (WB) mission and overarching goal is to reduce poverty. Moving ahead, what can the WB do to enhance its contribution to the poverty reduction agenda? This question can be answered from at least two perspectives: the WB as a lending institution and the WB as a knowledge bank. Here we will concentrate on the latter and suggest two areas in which more and better information and analysis could help move the poverty reduction agenda forward: improving data on poverty and redressing poverty assessments to include the impact of fiscal policy on poverty and inequality.

#### *Poverty Data: Errors, Gaps and Inconsistencies*

The WB's mission statement begins with the following sentence: "Our dream is a world free of poverty." To determine how close --or how far-- we are from achieving this dream we need to have accurate measures of poverty and its evolution. With the WB's (and other multilateral organizations' and donors') support, much progress has been made towards generating reliable and comparable poverty estimates.<sup>1</sup> Yet, the data on poverty is still fraught with problems. Recently, for example, as a result of the collection of new price data by the International Comparisons Project, using the new 2005 Purchasing Power Parity (PPP) conversion factors, we found that the absolute number of poor (i.e., people living below the "dollar-a-day" --US\$1.25 PPP per day-- poverty line) was 50% higher using 2005 PPP conversion factors than the same figure using 1993 PPP conversion factors (Chen and Ravallion, 2008; also see Figure 1). Until the new collection of price data was completed, we thought there were 931.3 million poor people in 2005 (17.2 percent of total world population). However, with the new PPPs, the number rose to 1,399.6 million (28.7 percent of total world population) (Chen and Ravallion, table 5).<sup>2</sup> This large discrepancy between estimates using 1993 and 2005 conversion factors stemmed "... in large part from biases in prior rounds of the price surveys that were used to estimate the PPP exchange rates used for currency conversions" (Chen and

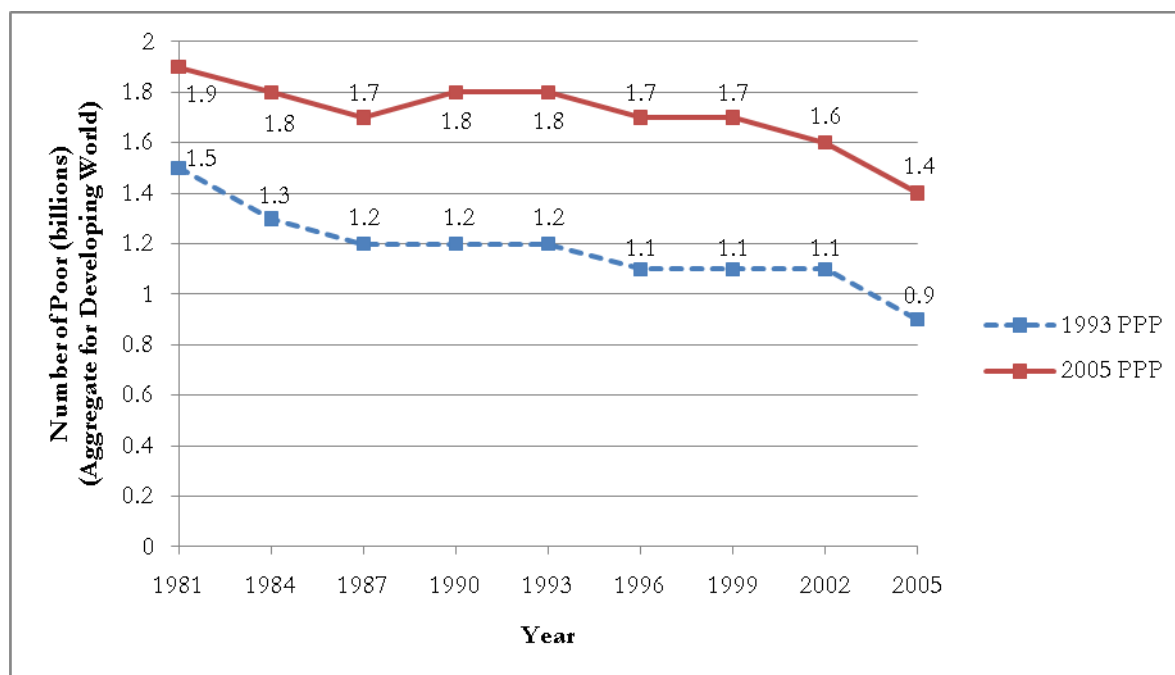
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<sup>1</sup> For example, the WB's Living Standard Measurement Surveys (LSMS), the Inter-American Development Bank (IDB)/WB/United Nations Economic Commission for Latin America and the Caribbean's (UNECLAC) MECOVI (Spanish acronym for Improving the Surveys on Living Conditions) and other similar initiatives. Also, the WB's Research Department's systematic publication of poverty and inequality estimates using a consistent methodology.

<sup>2</sup> Fortunately, the trend did not change: the pace at which poverty has been falling in the last 15 years using the 2005 PPP conversion factors has been similar to the pace using the 1993 PPP conversion factors.

Ravallion, 2008, p. 3). In particular, the 1993 price data grossly under-estimated the cost-of-living in a number of developing countries (notably, China and India). As a consequence, incomes were over-estimated and poverty was under-estimated (both because the previous US\$1.08 PPP per day poverty line was too low and incomes were overestimated). While the use of more accurate price data did not change our likelihood of achieving the first goal<sup>3</sup> of the United Nations' (UN) Millennium Development Goals (MDGs) --that is, to "halve, between 1990 and 2015, the proportion of people whose income is less than \$1 a day"<sup>4</sup>-- it put the absolute number of poor in 2005 at levels that we thought prevailed in the early 1980s. In other words, with a more accurate measure of the cost-of-living in developing countries we regressed 25 years in terms of how many people in the world need to be lifted out of poverty for the WB's dream to come true.

**Figure 1.** World number of poor using 1993 and 2005 price data for purchasing power conversions



Source: Data from Chen and Ravallion (2008).

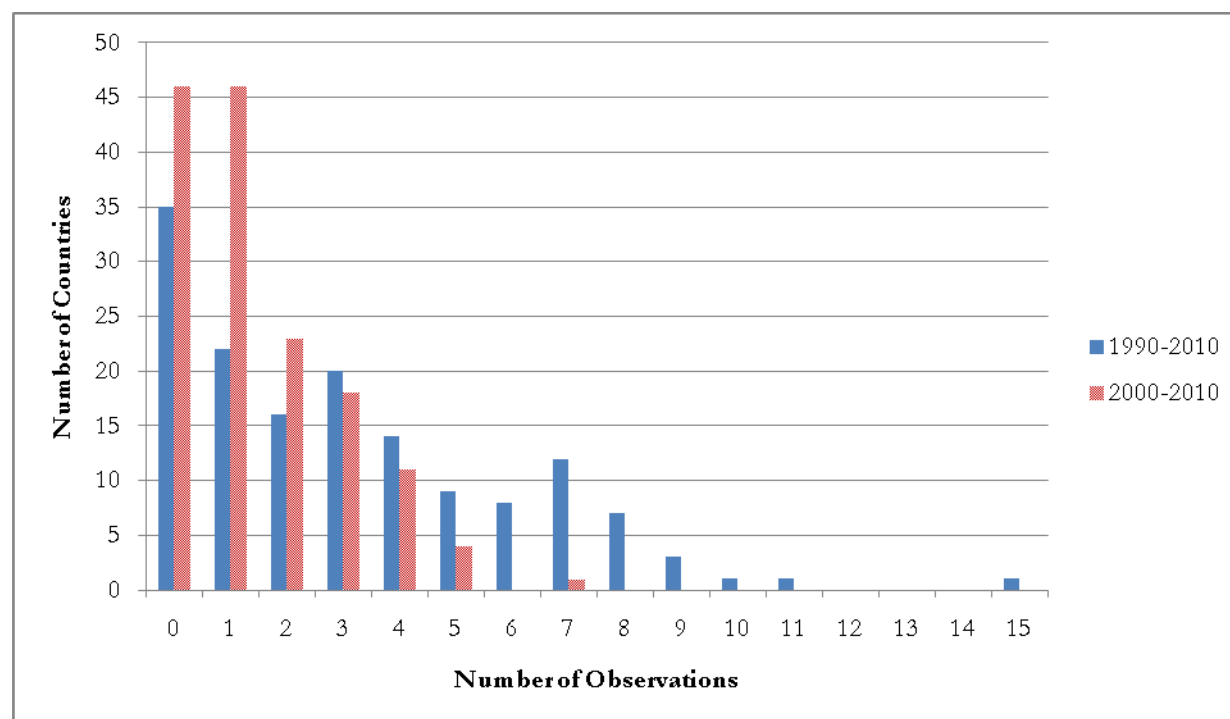
As troublesome as the above is, it is just one of the problems we face in generating accurate estimates of poverty and its evolution for the developing world. In many countries, especially the poorest ones, data is scant or non-existent. As can be seen in Figure 2, in 57 countries (over a third

<sup>3</sup> Strictly speaking it is the first target of the first goal. See <http://www.un.org/millenniumgoals/poverty.shtml>

<sup>4</sup> The MDGs can be found at this webpage: <http://www.un.org/millenniumgoals/>. Specifically, the first goal can be found at this webpage: <http://www.un.org/millenniumgoals/poverty.shtml>.

of developing countries) there are zero or only one data point between 1990 and 2010. This makes it impossible to track progress towards the achievement of the first goal of the MDGs.

**Figure 2.** Number of countries with number of observations between 1990-2010 and 2000-2010



*Source:* Author's estimates based on PovcalNet.

Since the signing of the Millennium Declaration by 189 member states in September 2000, the MDGs have emerged as a key development monitoring and planning tool for countries and international agencies. As we approach the endpoint of the MDGs in 2015, we should be able to compare observed progress against the MDG baseline from 1990, in particular for the very first goal. Minimally consistent and reliable country level data are essential if poverty reduction goals are to be both policy drivers and benchmarks for development outcomes. In spite of the great progress made,<sup>5</sup> a survey of data availability and quality (Lustig, 2008) found that even in the case of an indicator as basic as the headcount ratio, close to half of the 149 developing countries did not have sufficient information in the UN Statistics Division (UNSD) database<sup>6</sup> to monitor progress (i.e., did not have at least two points in time for the period 1990-2006) (see Table 1). This problem is compounded because there are many countries in which data for at least two points of time does exist, but comes from surveys that are not comparable over time.

<sup>5</sup> See, for example, <http://millenniumindicators.un.org>.

<sup>6</sup> The UNSD (United Nation Statistical Division) database uses the WB's World Development Indicators.

**Table 1.** Data Availability for Headcount Ratios among 149 Developing Countries: 1990-2006

	<u>International Poverty Line</u> Number of Countries	<u>National Poverty Line</u> Number of Countries
1. NO DATA	54	68
2. NOT POSSIBLE	14	30
3. LIMITED	5	21
4. ADEQUATE	24	26
5. IDEAL	52	4
TOTAL	149	149

*Source:* Lustig (2007).

*Note:* In order to assess the availability of data we have used the following taxonomy: 1. NO DATA: no data reported in the UNSD database; 2. NOT POSSIBLE: there is only one data point; 3. LIMITED: there are at least two points but they are four years or less apart; 4. ADEQUATE: there are at least two data points that are five years or more apart; 5. IDEAL: there are at least two data points with one prior to 1995 and one after 2000.

A third issue arises because in a non-trivial number of cases, the levels and trends reported by different sources (such as the country MDG reports, UN Economic Commissions' reports and statistical database, and the WB's poverty assessments) are not consistent with each other or with those found in PovcalNet: the on-line tool for poverty measures developed by the Development Research Group of the WB,<sup>7</sup> which is a widely used source. Differences in poverty estimates should not be surprising since there are a number of legitimate factors that can affect poverty numbers. To name the most important: whether data is corrected for under-reporting; whether calculations are made using the microdata (e.g., household surveys) or grouped data; whether the welfare indicator is income or consumption, and whether it is expressed in per capita or equivalized units; whether non-monetary income sources are included; and, of course, which poverty line is used and how it is adjusted over time. If we could identify the causes of discrepancies and inconsistencies, we would be able to choose among sources based on our preferences and needs. The problem is that one often cannot determine the cause of the differences because the methodological documentation that accompanies the published data does not exist, does not cover the issues that could explain discrepancies and inconsistencies, or, when it does, the explanations are insufficient.

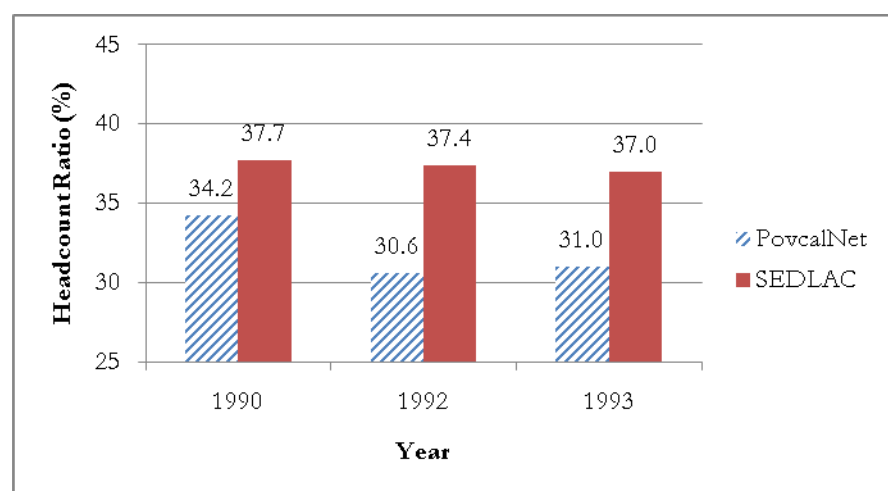
There are many examples that poverty levels and trends are not consistent across sources, including sources within the WB itself, and in which the WB is a partner. For example, Lustig (2007) found

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<sup>7</sup> More information, instructions on how to use, and access to PovcalNet: the on-line tool for poverty measurement developed by the Development Research Group of the WB can be found at <http://go.worldbank.org/WE8P1I8250>

that there were 17 out of 38 cases with data in which the trends in UNSD data did not coincide with the trends in country MDG reports.<sup>8</sup> For Latin America and the Caribbean (LAC), the results obtained through the WB's PovcalNet frequently differ from those published by SEDLAC (Socio-Economic Database for Latin America and the Caribbean),<sup>9</sup> despite the fact that the latter is a joint project with the WB's LAC poverty group (LCSPG). Let us illustrate this issue with an example for Brazil. If you try to show the evolution of poverty for Brazil during the early 1990s crisis, you are likely to find what is shown in Figure 3.

**Figure 3.** Poverty Headcount Ratio in Brazil for 1990-1993 using \$2.50 PPP per day poverty line



Source: PovcalNet data is from <http://iresearch.worldbank.org/PovcalNet/povcalNet.html>, using a poverty line of \$2.50 PPP per day (\$76 PPP monthly) using the default 2005 PPP conversion factor for Brazil. SEDLAC data is from SEDLAC's data website and can be obtained either by using a \$2.50 PPP per day poverty line in SEDLAC Dynamic Searches (<http://sedlac.econo.unlp.edu.ar/eng/dynamics-searches.php>) or from the following online document: [http://sedlac.econo.unlp.edu.ar/download.php?file=archivos\\_estadistica/poverty\\_LAC\\_2011.xls](http://sedlac.econo.unlp.edu.ar/download.php?file=archivos_estadistica/poverty_LAC_2011.xls).

Note: Data for the year 1991 is not available because the household survey was not conducted that year.

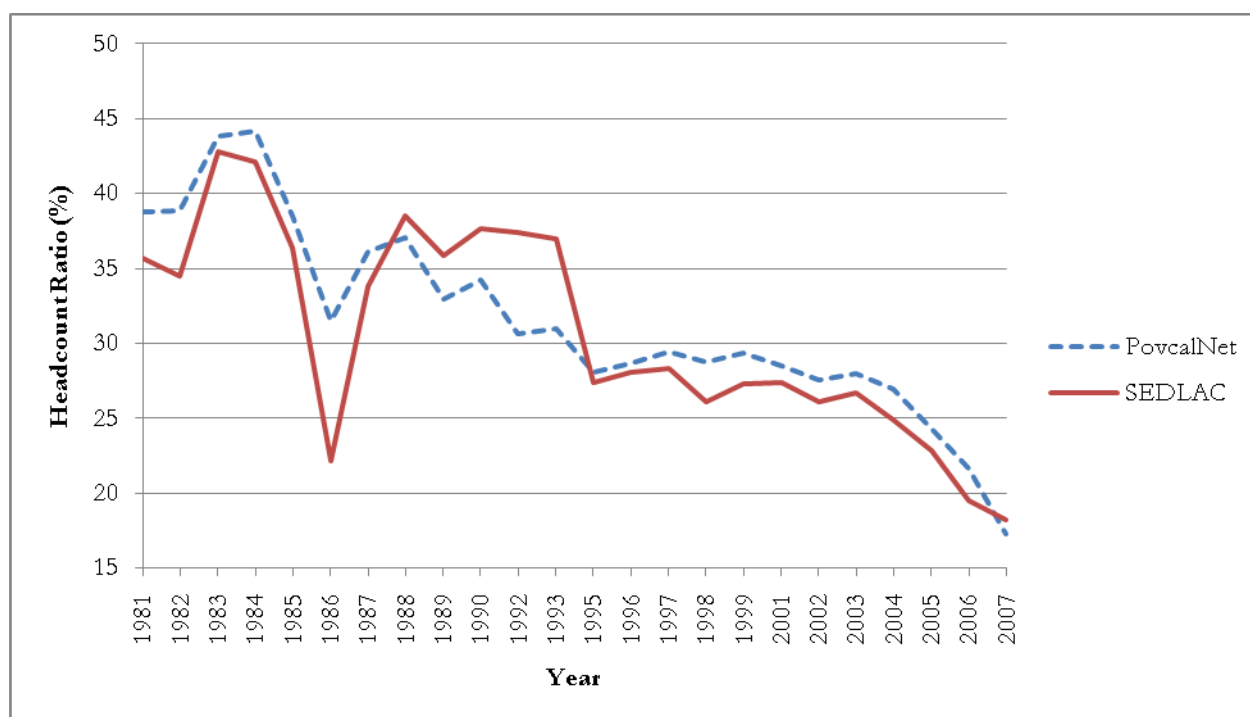
According to the WB's PovcalNet, the percentage of the population living below the \$2.50 PPP per day poverty line decreased by 3.6 percentage points between 1990 and 1992 despite the crisis. The poverty headcount ratio also decreased between 1990 and 1992 according to SEDLAC (using the same poverty line), but by a much smaller magnitude (only 0.3 percentage points). Between 1992 and 1993, when Brazil was pulling out of its crisis, the two sources disagree on the direction of poverty: PovcalNet reports an increase of 0.4 percentage points, while SEDLAC reports a decrease of 0.4 percentage points. The two sources also disagree somewhat on the magnitude of poverty; SEDLAC reports higher levels of poverty for all three years. However, this discrepancy in

<sup>8</sup> The MDG Reports (Millennium Development Goals Reports) are sponsored by the UN.

<sup>9</sup> Socio-Economic Database for Latin America and the Caribbean (CEDLAS and the World Bank) <http://sedlac.econo.unlp.edu.ar/eng/>

magnitude is not consistent over time (i.e., one source does not report consistently higher levels of poverty due to a specific methodological choice); Figure 4 shows that PovcalNet reports higher levels of poverty than SEDLAC for 1981-1987 and for 1995-2006, while SEDLAC reports higher levels for 1988-1993 and 2007 (the most recent year for which data is available from both sources). The two sources disagree on the year-to-year trend of poverty (i.e., whether poverty increased or decreased from the previous year) for 1982, 1984, 1993 and 2001. They also frequently disagree on the trends of poverty over longer periods of time. Suppose, for example, we are curious about the evolution of poverty over the 1980s decade—when Brazil, as most of Latin America, was in the midst of a debt crisis. According to PovcalNet, the percentage of the population living on less than \$2.50 PPP per day decreased between 1981 and 1990; according to SEDLAC, the same figure increased (see Figure 4).

**Figure 4.** Poverty Headcount Ratio in Brazil for 1981-2007 using \$2.50 PPP per day poverty line



Source: PovcalNet data is from <http://iresearch.worldbank.org/PovcalNet/povcalNet.html>, using a poverty line of \$2.50 PPP per day (\$76 PPP monthly) using the default 2005 PPP conversion factor for Brazil. SEDLAC data is from SEDLAC's data website and can be obtained either by using a \$2.50 PPP per day poverty line in SEDLAC Dynamic Searches (<http://sedlac.econo.unlp.edu.ar/eng/dynamics-searches.php>) or from the following online document: [http://sedlac.econo.unlp.edu.ar/download.php?file=archivos\\_estadistica/poverty\\_LAC\\_2011.xls](http://sedlac.econo.unlp.edu.ar/download.php?file=archivos_estadistica/poverty_LAC_2011.xls).

Note: Data for the years 1991, 1994 and 2000 is not available because the household survey was not conducted those years.



For most countries, PovcalNet data aligns with poverty data reported in the WB's World Development Indicators (WDI);<sup>10</sup> the WDI website even cites PovcalNet's methodology for poverty calculations.<sup>11</sup> However, there are a number of cases in which data is provided in a different manner in the two sources, even for the highly-watched "BRIC" or HIPC countries. For countries such as India and China, where separate surveys are carried out in urban and rural areas, PovcalNet reports two separate sets of poverty figures (one for urban China and one for rural China, for example), whereas WDI only reports national poverty figures by calculating a weighted average of the urban and rural estimates when perhaps this aggregation is not valid. In addition, there are a number of years for which data is reported in one source but not the other. Table 2 illustrates this example for the poverty headcount ratio in China and Indonesia since 1990. The example of Indonesia is particularly striking; there is only one year (2005) for which a headcount ratio is reported in both WDI and PovcalNet. For 1990, 1993, 1996, 1999 and 2002, urban and rural headcount ratios are reported in PovcalNet, so the necessary data should be available to estimate the national headcount ratio for those years in WDI. For 2007, a poverty headcount ratio is reported in WDI but not in PovcalNet. These and other discrepancies in data availability should be corrected, or an explanation should be documented if they occur for a specific reason.

**Table 2.** Poverty Headcount Ratios in China and Indonesia for 1990-2007 using \$1.25 PPP per day

Year	China			Indonesia		
	WDI	PovcalNet		WDI	PovcalNet	
	National	Urban	Rural	National	Urban	Rural
1990	60.2	23.4	74.1		47.8	57.1
1992		12.1	84.9			
1993	53.7	14.3	70.4		47.0	58.1
1994		12.6	79.3			
1995		9.0	74.7			
1996	36.4	8.9	49.5		37.6	46.7
1997		8.4	66.6			
1998		8.4	67.7			
1999	35.6	7.1	50.9		39.4	53.4
2002	28.4	3.0	43.7		24.2	33.6
2005	15.9	1.7	26.1	21.4	18.7	24.0
2007				29.4		

Source: PovcalNet data is from <http://iresearch.worldbank.org/PovcalNet/povcalNet.html>, using a poverty line of \$1.25 PPP per day (\$38 PPP monthly) and the default 2005 PPP conversion factors for China and Indonesia. WDI data is

<sup>10</sup> The World Development Indicators (WDI) can be accessed online at <http://databank.worldbank.org/>. WDI provides poverty data using international poverty lines of \$1.25 PPP per day and \$2 PPP per day, as well as official national poverty lines. PovcalNet data generally aligns with WDI data when the same international poverty lines (\$38 per month and \$60.84 per month, respectively) are put into PovcalNet.

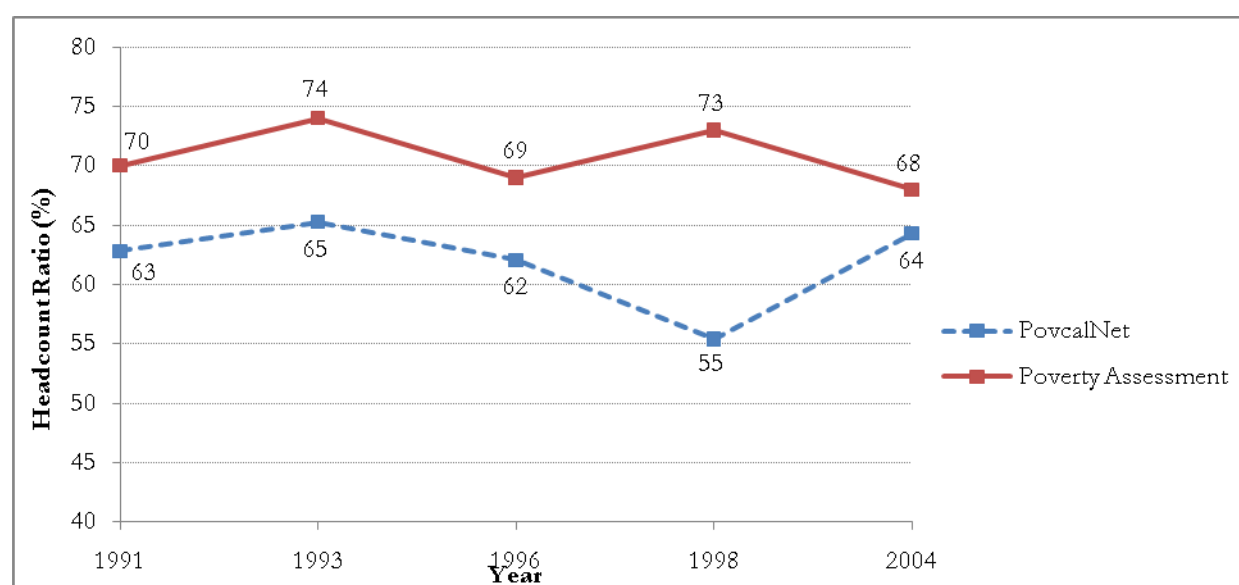
<sup>11</sup> See <http://data.worldbank.org/indicator/SI.POV.DDAY>

from <http://databank.worldbank.org/> using the series “Poverty headcount ratio at \$1.25 a day (PPP) (% of population)”.

*Note:* Gray cells indicate that data was not available. Years for which neither country had available data in either source are not included in the table.

There are also a number of countries for which the WB’s Poverty Assessments and poverty data obtained from the WB’s PovcalNet differ in both the levels and trends of poverty. This is illustrated by the following example from Zambia. The data compared in Figure 5 is data from the WB’s Zambia Poverty and Vulnerability Assessment which used a \$.50 PPP per day (World Bank, 2007)<sup>12</sup> and data obtained from PovcalNet using a poverty line of \$1.25 PPP per day.<sup>13</sup>

**Figure 5.** Poverty Headcount Ratio in Zambia for available years of 1991-2004



*Source:* PovcalNet data is from <http://iresearch.worldbank.org/PovcalNet/povcalNet.html>, using a poverty line of \$1.25 PPP per day (\$38 PPP monthly) using the default 2005 PPP conversion factor for Zambia. Poverty Assessment data is from the WB’s Zambia Poverty and Vulnerability Assessment (World Bank, 2007, p. 44, Figure 2.8). The same data is cited in Zambia’s Poverty Reduction Strategy Paper (International Monetary Fund, 2007, p. 12, Figure 2.1). The original data source is Zambia’s Central Statistical Office (see <http://www.zamstats.gov.zm/lcm.php>).

*Note:* The household surveys conducted in 1991, 1993, 1996, 1998 and 2004 are comparable. A survey was also conducted in 2002, but due to changes in data collection methods, the 2002 survey is not comparable with the other years (World Bank, 2007).

<sup>12</sup> The data in the Poverty Assessment (World Bank, 2007, p. 44, Figure 2.8) is cited from Zambia’s Central Statistical Office (CSO; see <http://www.zamstats.gov.zm/lcm.php>) and was not calculated by the authors of the report. Nevertheless, the document describes the methodology used by the CSO (in the Annex to Chapter 2). The authors of the report only calculate their own figures for poverty in 2002, based on the survey for that year. However, that survey was not comparable with other years due to changes in data collection methods (World Bank, 2007).

<sup>13</sup> The \$1.25 PPP per day poverty line is tied to what poverty means in the world’s poorest countries (Ravallion, Chen and Sangraula, 2009), and is therefore appropriate for measuring poverty in Zambia. In the earlier example of Brazil, a \$2.50 PPP per day poverty line, which is approximately equal to the median of the official extreme poverty lines calculated by LAC governments (usually using a cost of basic needs method), was more appropriate (CEDLAS and the World Bank, 2010).

While the two data sources agree on trends for 1991-1993 and 1993-1996, there is a large disagreement regarding the evolution of poverty between 1996 and 2004. For 1996-1998, the Poverty Assessment shows an increase in poverty of four percentage points, while PovcalNet shows a decrease of seven percentage points. Because the percentage of Zambians living below in poverty was already lower according to PovcalNet (using a \$1.25 PPP per day line) than according to the Poverty Assessment, the decrease reported by PovcalNet for the period 1996-1998 also results in a large difference in magnitude between the two sources in 1998: the Poverty Assessment reports an incidence of poverty of 73%, while PovcalNet reports 55% (although the poverty line is reportedly higher in the latter). The trend for 1998-2004 is also a point of disagreement between the two sources, with the Poverty Assessment showing a decrease of five percentage points and PovcalNet showing an increase of nine percentage points. Even if we treat 1998 as an “outlier” and discard that data point, the two sources disagree on the overall change in poverty between 1996 and 2004: the Poverty Assessment reports a slight decrease, while PovcalNet reports a slight increase (see Figure 5).<sup>14</sup>

As mentioned earlier, it is often difficult to identify the causes of observed discrepancies and inconsistencies (such as those from the above examples) because the methodological documentation that accompanies published data or online estimators does not exist, does not cover the issues that could explain discrepancies and inconsistencies, or, when it does, the explanations are insufficient. The level of methodological documentation varies among data sources, and one of the areas in which the WB can improve the knowledge bank of poverty data would be to add a comprehensive methodological guide to the PovcalNet website. Currently, PovcalNet’s methodology for calculating poverty using parameterized Lorenz curves and purchasing power conversion factors is well-described on the website, but its methodology regarding other issues inherent in poverty analysis, such as adjustments for underreporting, adult equivalence and economies of scale within households, is difficult to determine. For example, to figure out whether PovcalNet adjusts for adult equivalence, a user might read the background paper provided on PovcalNet’s website: Chen and Ravallion (2008). However, this background paper does not explicitly discuss its methodology with respect to equivalence scales; instead, it references the methodology of previous papers (Chen and

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<sup>14</sup> It is worth noting that the choice of a poverty line (among reasonable poverty lines) does not affect the trends of poverty in Zambia for the period 1996-2004 as reported by PovcalNet. Poverty decreased from 1996 to 1998, increased from 1998 to 2004, and increased slightly overall between 1996 and 2004 according to PovcalNet, regardless of whether the chosen poverty line is \$1 PPP, \$1.25 PPP, \$2 PPP, \$2.50 PPP or \$2.90 PPP per day. The five poverty lines tested were chosen based on Ravallion, Chen and Sangraula (2009).

Ravallion, 2001, 2004, 2007). To determine PovcalNet's methodology regarding adjusting for survey nonresponse, a user would have to sort through the numerous publications listed on PovcalNet's website, find the article "An Econometric Method of Correcting for Unit Nonresponse Bias in Surveys" (Korinek, Mistiam and Ravallion, 2005), and infer that the methodology described in that paper is the same methodology adopted by PovcalNet, which is not explicit. It would be useful, therefore, to combine PovcalNet's methodological choices into a comprehensive methodological guide easily accessible from its website. The need for such a guide is even more apparent when one takes into consideration that the definition of the poverty headcount ratio on the WB's World Development Indicators website says, "For more information and methodology, please see PovcalNet," and provides a link to the latter.<sup>15</sup>

The WB's Poverty Assessments typically include a description of the methodology used to estimate poverty. In the case of Zambia, the assessment includes a very detailed description of the methodology used by the authors to calculate a poverty line and various poverty measures in 2002, as well as an equally detailed description of the methodology used by Zambia's Central Statistical Office. Likewise, SEDLAC has published (and regularly updates) a detailed methodological guide.<sup>16</sup> The guide describes SEDLAC's methodological choices regarding adjustments for zero and missing incomes, under-reporting, equivalence scales, implicit rent from own housing, etc. A potential improvement to this guide would be to include explanations of the effects that these methodological choices have on poverty estimates, which would facilitate the process of comparing the data reported by different sources and choosing a source, depending on one's needs and preferences, to analyze poverty in a particular country.

How often do problems of data consistency, like those described in the above examples, arise? Furthermore, why are they relevant? Experience indicates that inconsistencies in poverty trends among different data sources are not an uncommon phenomenon. When inconsistencies occur, it becomes difficult to answer very straightforward questions, such as what happened to poverty during a particular period. In the examples presented above, knowing the impact of the early 1990s crisis on poverty in Brazil is relevant not just for Brazil but for our analysis of the impact of crises on poverty more generally. The recent evolution of poverty in Zambia is relevant not just for Zambia but for our analysis of poverty in highly indebted poor countries (HIPC)s more broadly. In addition, since many cross-country empirical studies rely on these indicators and usually use a limited

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<sup>15</sup> See <http://data.worldbank.org/indicator/SI.POV.DDAY>

<sup>16</sup> Available from SEDLAC's website at <http://sedlac.econo.unlp.edu.ar/eng/methodology.php>

number of countries or years, the results of such studies can sometimes be driven by which source was used.

In addition to the issues of gross measurement errors, data gaps and inconsistencies, government-imposed barriers to microdata access (i.e., to the surveys themselves) are still too common. This inhibits cross-checking by independent observers such as researchers and non-governmental organizations.<sup>17</sup>

The previous discussion indicates that poverty data to monitor progress has significant limitations despite the enormous progress in the past twenty-five years. In general, these limitations are not caused by a particular institution or by individuals representing a country or by staff in the multilateral organization who are doing quite an heroic task to generate and publish information on poverty on a regular basis for as many countries as possible. However, the WB could assume a leadership role in addressing these limitations by making the production of nearly universally comparable and consistent poverty data a key strategic goal.<sup>18</sup>

The WB could work with other international agencies and countries themselves to ensure that household surveys are collected in the countries that currently have unsatisfactory or no data. In particular, efforts should be made to ensure that in-country capacity is developed to improve the collection, analysis and dissemination of the required information to monitor the evolution of poverty on a sustainable basis. The model for such an effort could be a combination of the WB's LSMS (Living Standard Measurement Surveys) and MECOVI (a Spanish acronym for Improving Surveys on Living Conditions in LAC). The latter--a joint project of the Inter-American Development Bank (IDB), the WB and the UN Economic Commission for LAC (UNECLAC)--was launched in the mid-nineties and had remarkable success in improving the availability and quality of household surveys in LAC. It also improved the in-country capacity to collect, analyze and disseminate surveys throughout the region. As a result, LAC now has one of the most comprehensive databases to track progress on development indicators such as poverty, inequality and its determinants, labor market performance, access to education, health and social security.<sup>19</sup>

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<sup>17</sup> Nevertheless, some countries are working to remove these barriers. Brazil, for example, has made household survey microdata available online for recent (since 2008) household surveys.

<sup>18</sup> This is consistent with one of the main recommendations of the "Deaton Commission." See Banerjee, Deaton, Lustig and Rogoff (2006).

<sup>19</sup> An example of the richness of information available in LAC can be found in SEDLAC (see <http://sedlac.econo.unlp.edu.ar/eng/>).

In the cases of inconsistencies among sources, the WB could take the lead in setting up a poverty data review process. In conjunction with other international and government agencies as well as independent researchers from the countries themselves, the WB should try to identify the source of discrepancies and clearly explain and document them.

In addition, the WB may want to go one step further for the data that is produced by the WB and/or published under its institutional logo. For that purpose, it could set up some sort of clearing-house to decide which information is the most robust to be used for a particular country at a specific point in time and why. A data user should not have to ponder whether to rely on PovcalNet, World Development Indicators or Poverty Assessments (or SEDLAC for Latin America) regarding poverty and inequality estimates.

#### *Assessing the Impact of Fiscal Policy on Poverty*

We know that in advanced countries the direct contribution (that is, without behavioral responses or general equilibrium effects) of net transfers to reducing post-fiscal inequality and poverty is quite substantial. For example, according to Lopez and Perry (2008, p. 18-19) and Goñi, Lopez and Serven (2008, p. 5, n. 14), post-fiscal income inequality in advanced countries is as much as 15 percentage points lower than pre-fiscal income inequality.<sup>20</sup> DeFina and Thanawala (2004) show that the after net transfers headcount ratio, poverty gap and squared poverty gap in 17 advanced countries are, on average, 53, 73 and 81 percent lower, respectively, than before net transfers, and that a wide variation among countries exists especially for the headcount ratio. How effectively do governments in developing countries use their ability to collect and redistribute revenues to reduce poverty? At present, information and analysis on the direct impact of fiscal policy on poverty is scarce, not comparable across countries or over time, and not systematized (i.e., not available in one location and/or in a user-friendly format). Given the pervasiveness of fiscal policy and its importance in terms of impact, it would seem that institutions such as the WB could play a pivotal role in closing this knowledge gap.

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<sup>20</sup> The market income Gini for the Latin American countries in the sample was .52, and the disposable income Gini was .5; the market income Gini for European countries in the sample was .46 and the disposable income Gini was .31. This estimate includes monetary transfers and direct taxes only. In-kind transfers and indirect taxes, such as VAT, are not included in the analysis. The comparison should be viewed with certain caution since the market income inequality is quite likely endogenous to the existing transfer systems. If pensions were not generous enough, for example, households which now portray zero or low market incomes would probably have higher levels of market incomes.

Net transfers (particularly monetary transfers), tended—at least until recently—to be considered as secondary in the fight against poverty in developing countries. In general, the consensus has been that in order to reduce poverty on a sustainable basis, it is better to rely on pro-poor growth strategies. Recent research, however, reveals that direct cash transfers (especially the well-known Conditional Cash Transfers, CCTs) can be quite powerful in reducing poverty (and inequality) on a large scale (Fiszbein and Schady et al., 2009; Lopez-Calva and Lustig, 2010). For example, Soares and Satyro (2009, p. 27, table 10) show that the CCT program Bolsa Familia reduced Brazil's poverty gap and squared poverty gap by 18% and 22%, respectively, in 2006. Barros et al. (2010, p. 153, table 6-6) show that 13% of the recent decline in income inequality in Brazil (as measured by the Gini coefficient) can be attributed to Bolsa Familia transfers, while the program's budget is less than 0.5% of national income. Similar results have been found for Mexico's large-scale CCT, Oportunidades. Fiszbein and Schady et al. (2009, p. 110, table 4.3) show that Oportunidades reduced the poverty gap and squared poverty gap by 19% and 29%, respectively, in 2004, while Scott (2008, p. 43, table 9) shows that it accounts for 18.8% of Mexico's recent decline in income inequality. The impressive contribution of CCTs to poverty reduction is not limited to LAC; for example, an *ex ante* impact evaluation of Pantawid Pamilyang Pilipino (a CCT in the Philippines) found that the program has the potential to reduce the incidence, depth and severity of poverty by 31.1, 52.5 and 64.3%, respectively (Son and Florentino, 2008, p. 18, table 8).<sup>21</sup>

In the last ten years there has been a technological innovation in social policy demonstrating that cash transfers to the poor on a very large scale (Brazil's program reaches more than 50 million people and Mexico's, more than 20 million) are feasible and relatively inexpensive (average administrative costs are 4% of total program budget for Bolsa Familia and 9% for Oportunidades (Fiszbein and Schady et al., 2009, p. 243, 269)). In addition to reducing poverty directly, CCTs have been shown to improve health (measured in terms of regular medical checkups, prenatal, natal and postnatal care, vaccinations, body mass index, blood pressure and incidence of illness),<sup>22</sup> nutrition (measured in terms of quality of food consumed, birthweight and child growth)<sup>23</sup> and education

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<sup>21</sup> The simulation performed by Son and Florentino (2008) includes multiple targeting possibilities (universal targeting, targeting only poor children, and geographic targeting), multiple transfer sizes, and two different transfer options: uniform, where the amount of the transfer does not change with the child's age, and progressive, where the transfer increases by 5% per year to compensate for the increased opportunity cost of school attendance for older children. The numbers cited here assume the current program characteristics: targeting only poor children and a uniform transfer size of 300 pesos per child.

<sup>22</sup> See, for example, Lagarde, Haines and Palmer (2009), Lomeli (2008) and Fernald, Hou and Gertler (2008).

<sup>23</sup> See, for example, Attanasio and Mesnard (2006), Fernald, Gertler and Neufeld (2008) and Barber and Gertler (2008).

(measured in terms of school attendance, enrollment and grade promotion),<sup>24</sup> which one hopes will help break the poverty cycle and reduce poverty in the future. The CCTs have also reduced poverty among non-beneficiaries in their local communities because of indirect or spillover effects (Barrientos and Sabates-Wheeler, 2009; Angelucci and De Giorgi, 2009). Learning about the revenue raising and spending patterns of developing countries' governments can be very useful to assess whether there is fiscal space for such policies and, if not, why not and how it can be created.

In light of the previous discussion, fiscal policy—cash transfers, in particular-- as a direct tool for poverty reduction should be given more prominence. Based on Lustig (2011), this paper outlines a diagnostic framework to assess how effective and efficient governments' fiscal policies are at reducing poverty. The *Commitment to Equity Assessment (CEQ)* is a diagnostic tool that quantifies and assesses the extent to which governments use revenue-raising and expenditure policies to reduce poverty and inequality in ways that are broadly consistent with macroeconomic stability, microeconomic efficiency and growth.<sup>25</sup> Based on the economics of the welfare state, CEQ evaluates public finance practices in individual countries in terms of four basic dimensions or criteria: resources, equity, quality and accountability. Do governments collect and allocate enough resources to support a minimum living standard for all? Do they collect and distribute resources equitably? Do they ensure spending is fiscally sustainable and that programs are incentive compatible? Do they collect and publish relevant information and are they subject to independent evaluations? For each criterion there are quantitative and qualitative indicators derived from poverty and inequality analysis, static fiscal incidence analysis<sup>26</sup> as well as best practices in macroeconomic management, program and policy design and evaluation, and accountability indicators.<sup>27</sup>

In sum,

CEQ consists of a diagnostic framework which helps identify the main causes and constraints (successful fiscal interventions) that prevent a country from achieving (enable a country to achieve) a

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<sup>24</sup> See, for example, Glewwe and Kassouf (2010), de Brauw and Hoddinott (2010), Schady and Araujo (2008) and Maluccio and Flores (2005).

<sup>25</sup> Developed under the leadership of Nora Lustig, the CEQ is a joint project of the Inter-American Dialogue and Tulane University's Center for Inter-American Policy and Research (CIPR) and Department of Economics. The CEQ has received generous support from the Canadian International Development Agency, the Norwegian Ministry of Foreign Affairs, the United Nations Development Programme's Regional Bureau for Latin America and the Caribbean and the General Electric Foundation.

<sup>26</sup> For the limitations of static incidence analysis see, for example, Bergh (2005).

<sup>27</sup> See, for example, Adema and Ladaïque (2005), Atkinson (1983), Bourguignon and Pereira da Silva (2003), Barr (2004), Barros et al. (2009), Birdsall, de la Torre and Menez (2008), Breceda, Rigolini and Saavedra (2008), Dilnot, Kay and Keen (1990), Fiszbein and Schady et al. (2009), Grosh et al. (2008), Goñi, Lopez and Servén (2008), Kakwani (1977), Lambert (2002), Lora (2006), Morra Imas and Rist (2009), Lustig (2000), Shah (2003), Suits (1977), van de Walle and Nead (1995), World Bank (2000/2001, 2006).



universal minimum standard of living and reductions in inequality in ways that are consistent with macroeconomic and microeconomic efficiency. A diagnostic framework follows a logical sequence to identify or discard factors that may be a. obstacles or crucial to achieving a particular objective or b. essential to understanding a specific phenomenon. Diagnostic exercises usually rely on a combination of predictions from theory, rigorous empirical evidence, practical knowledge and what we call “common sense.” The diagnostic approach has been widely used to identify the binding constraints for economic growth (Hausmann, Rodrik and Velasco (2006), Rodrik (2007) and Hausmann, Klinger and Wagner (2008)). CEQ is one of the first attempts to apply it to a social equity goal. (Lustig, 2011)

CEQ confines its assessment of government efforts to fiscal policy (also called fiscal or budgetary interventions).<sup>28</sup> CEQ’s main purpose is to inform governments of how their public finances affect their equity goals, recommend practical measures, and enhance accountability and transparency through better data collection and evaluation systems.<sup>29</sup> In the case of HIPC countries and very poor countries more broadly, CEQ contributes to inform donors on the orders of magnitude of resource shortfalls to achieve certain goals (for example, reducing poverty by half and universal coverage of primary education) as well as on the actual use and ability of foreign aid to help achieve these goals. CEQ could inform donors, for example, who is actually benefiting from the larger resource envelope made available to the country. Of course, CEQ can be used for other purposes: for example, participatory budgeting processes and non-governmental social observatories. In the future, it will also be used to construct a Commitment to Equity Index to rank countries and monitor their performance over time.<sup>30</sup>

CEQ takes the form of a questionnaire whose theoretical underpinning can be found in economics of the welfare state and the criteria-based approach.<sup>31</sup> The answers to the questionnaire use indicators from standard poverty and inequality analysis, fiscal incidence analysis and public finance. It uses static incidence analysis; it does not include behavioral responses or general equilibrium effects. To construct the indicators, CEQ uses experimental approaches in areas not well developed in the literature (e.g., to estimate resources required to close poverty gaps caused by systemic shocks). The data requirements are mainly two: household income-expenditure surveys (expenditures and self-consumption data are important to assess the impact of indirect subsidies and

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<sup>28</sup> Depending on the country, “transfers” may include some producer subsidies, especially in agriculture. More precise definitions can be found in Lustig (2011).

<sup>29</sup> The CEQ assesses efforts and not outcomes. The CEQ can be viewed as a complement to ongoing initiatives such as the World Bank’s biennial *Human Opportunity Index* (Barros et al., 2009), UNDP’s *Human Development Index* and the UN’s MDGs Monitoring.

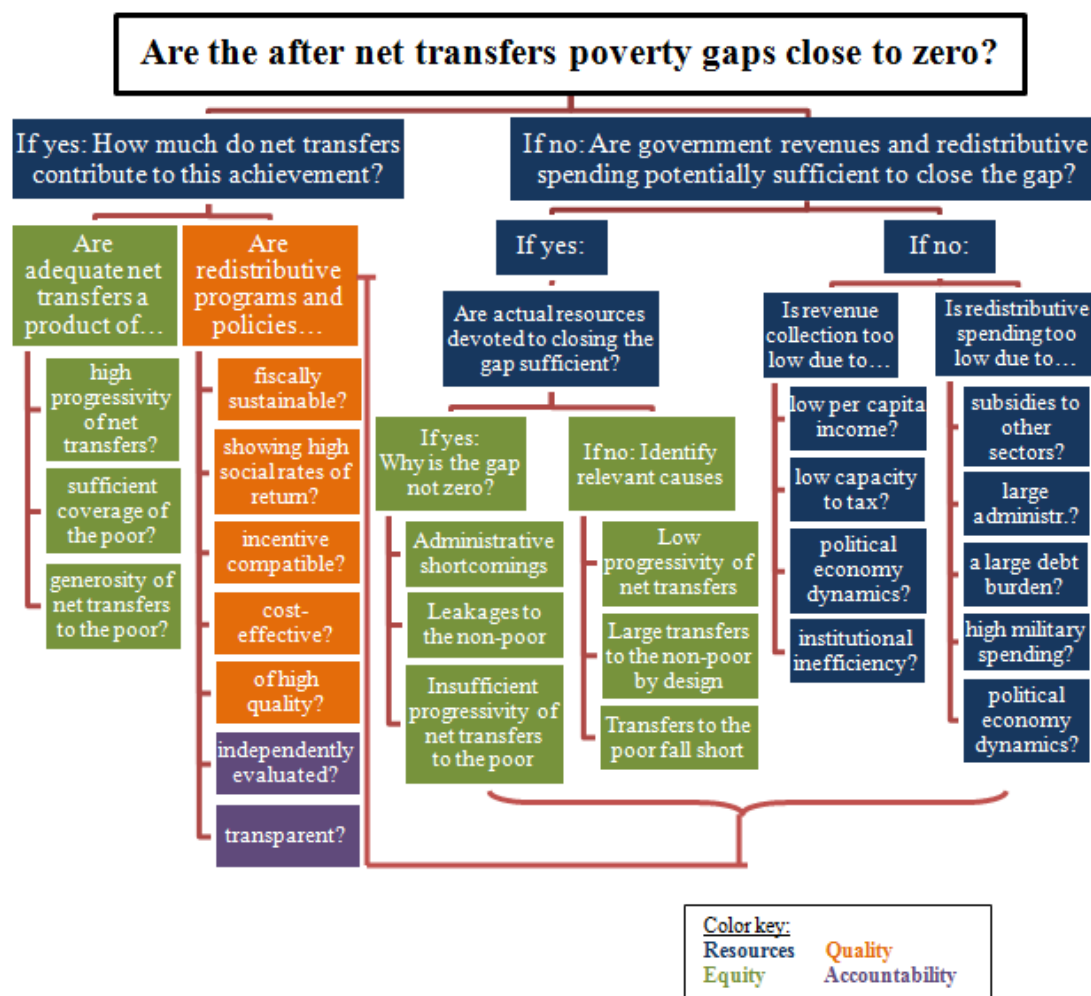
<sup>30</sup> Also a joint initiative of the Inter-American Dialogue and Tulane University’s Center for Inter-American Policy and Research (CIPR), the construction of such an index is under way.

<sup>31</sup> For details on the criteria-based approach see Lustig (2011).

taxes) and detailed public sector accounts (at the federal and, if appropriate, state and local levels). In addition, CEQ uses the existing knowledge on efficiency and cost-effectiveness of the tax-and-transfer system.

Details on CEQ, the full questionnaire and results from applying CEQ to two middle-income countries (Argentina and Mexico) can be found in Lustig (2011) and Lustig, Pessino and Scott (2011), respectively. Here we present a summary of the diagnostic process in Figure 6. In a nutshell, CEQ starts out by selecting the goals (indicators) we want to use for the assessment. For example, in middle-income countries we want to check whether governments are able to reduce post-fiscal extreme poverty as much as advanced countries and whether they are able to provide access to basic education and health services to the universe of the poor. In the case of HIPC countries or other low-income countries, we may want to check whether governments are able to reduce poverty in ways consistent with MDGs.

**Figure 6.** Commitment to Equity Assessments (CEQ) Diagnostic Tree



Source: Lustig (2011).

Once we can establish whether the goals are achieved for a particular country, the diagnostic exercise begins. In general, we will find that the goals are not achieved. The question is *why not?* Is it for lack of fiscal resources? If the answer is yes, is it because the country is too poor or effort to raise revenues is sub-par? If effort to raise revenues is sub-par, what are the causes: political economy dynamics, institutional ineffectiveness, etc.? Even if the government collects sufficient resources, is what is left for redistributive purposes sufficient to achieve the goals? If no, what are the causes: large debt payments, military spending, overblown bureaucracies, corruption, etc.? If yes (the government does collect sufficient resources), why are the goals not achieved? Is it because redistributive resources are not collected or distributed in equitable forms: that is, a large proportion of the net transfers accrues to the non-poor? If the latter is the case, is it so by design (for example,

subsidies to goods and services—e.g., gasoline or tertiary education—that accrue in larger proportion to the non-poor)? Or, are true errors of exclusion at fault? Other factors that may be preventing the goals from being achieved are that the coverage of programs and policies is not universal among the poor and/or the size of the net transfers to the poor falls short. In turn, these causes could be a result of the design of net transfers: for example, government programs may purposefully exclude undocumented immigrants or able-bodied adult men. Or, they could be the result of unintended errors of inclusion.

At the end of the diagnostic exercise, one will be able to identify whether the heart of the problem lies in: 1. the scarcity of aggregate fiscal resources; 2. the way the latter are allocated by function; 3. the way they are collected/allocated between the poor and the non-poor (or, more broadly among different socio-economic groups) and which policies and programs are the main “culprits”; and/or 4. gaps in the range of policies and programs or problems with their implementation which result in insufficient coverage of the poor or insufficient resources allocated to them. In addition, the application of CEQ will permit us to assess whether the policies are, broadly speaking, sustainable from a macroeconomic point of view and incentive compatible and cost-effective from a microeconomic point of view. In addition, we will be able to determine whether policies and programs are carried out with the transparency and accountability that is desirable to establish effective governance.

The Commitment to Equity Assessments could be done as stand-alone exercises or integrated to Poverty Assessments, Public Expenditure Reviews or the PRSP (Poverty Reduction Strategy Papers) processes. Having such assessments will help focus the attention on the areas in which governments are performing well and poorly in terms of their commitment to reduce poverty through fiscal policy. Given the potential for fiscal policy to substantially reduce poverty, the assessments will also be of immense value for policy decisions.

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